- Fluoridation census 1975. Publication No. 98-607. Centers for Disease Control, Dental Disease Prevention Activity, Atlanta, GA, 1977.
- Fluoridation census 1980. Centers for Disease Control, Dental Disease Prevention Activity, Atlanta, GA, 1984.
- Recommended State guidelines for community fluoridation, revised. Mimeographed. Association of State and Territorial Dental Directors, Atlanta, GA, 1985.
- Dangel, R. A.: Evaluating fluoride concentrations in community water supplies. J Am Water Works Assoc 69: 645-647, December 1977.
- Disney, J. A., Bohannan, H., Graves, R., and Anderson,
 P.: Fluoride level variations in five fluoridated cities.
 IADR abstract 923. J Dent Res 61: 281, March 1982.
- Hushower, T. N.: Adequacy of community water fluoridation. Paper presented at the American Dental Association's Council on Scientific Affairs, San Francisco, CA, Oct. 30, 1972.
- Kuthy, R. A., Naleway, C., and Durkee, J.: Factors associated with maintenance of proper water fluoride levels. J Am Dent Assoc 110: 511-513, April 1985.
- Long, J. G., and Stowe, H.: Monitoring fluoride in Vermont's drinking water. J Public Health Dent 33: 13-21, winter 1973.
- Scholz-Spitz, G. C., Taylor, F. B., and Harris, W. L.: Experience in maintaining constant fluoride concentrations. Am J Public Health 48: 1651-1659, December 1958.
- 12. Shannon, I. L.: The fluoride concentration in drinking

- water of fluoridating communities in Texas. Texas Dent J 96: 10-12, June 1978.
- Striffler, D. F., and Roder, D. M.: Fluoridation revisited: implementation and surveillance of fluoridation. In Community dentistry, edited by S. L. Silverman and A. F. Tryon. PSG Publishing Co., Littleton, MA, 1980, p. 215.
- Galagan, D. J., and Vermillion, J. R.: Determining optimum fluoride concentrations. Public Health Rep 72: 491-493. June 1957.
- Reeves, T. G.: Water fluoridation—a manual for engineers and technicians. Publication No. 00-4789. Centers for Disease Control, Dental Disease Prevention Activity, Atlanta, GA, October 1985.
- 16. Corbin, S. B.: The use of a computerized surveillance system for assuring quality in fluoridation programs serving American Indians and Alaskan Natives. Abstract No. 1002. Paper presented at the annual meeting of the American Public Health Association, Anaheim, CA, Nov. 12, 1984.
- Hoffman, J. H., and Sebelius, C. L.: The implementation of mandatory fluoridation in Illinois. J Public Health Dent 31: 275-281 (1971).
- Easley, M. W.: Fluoridation: where we stand in Ohio. Ohio Dental J 55: 14-30, May 1981.
- Spears, N. D.: Reconsidering the 1975 census of U.S. communities which provide naturally fluoridated waters. J Public Health Dent 39: 102-111, spring 1979.

Marketing Family Planning Services in New Orleans

JANE T. BERTRAND, PhD BRENDA J. PROFFITT, MHA TERRI L. BARTLETT, BA

Jane T. Bertrand is Associate Professor in the Department of Applied Health Sciences, and Brenda J. Proffitt was a Research Assistant, both at the School of Public Health and Tropical Medicine, Tulane University. Terri L. Bartlett is Executive Director, Planned Parenthood of Louisiana, Inc.

Tearsheet requests to Jane T. Bertrand, PhD, Tulane SPHTM, 1501 Canal St., New Orleans, LA 70112.

Synopsis.....

The health care profession is witnessing a shift in focus from the interests and needs of the service provider to those of the potential consumer in an effort to attract and maintain clients. This study illustrates the role that marketing research can play in the development of program strategies, even for relatively small organizations. The study was conducted for Planned Parenthood of Louisiana, a recently organized affiliate that began offering clinical services in May 1984, to provide information on the four Ps of marketing: product, price, place, and promotion.

Data from telephone interviews among a random sample of 1,000 women 15-35 years old in New Orleans before the clinic opened confirmed that the need for family planning services was not entirely satisfied by existing service providers. Moreover, it indicated that clinic hours and the cost of services were in line with client interests. The most useful findings for developing the promotional strategy were (a) the relatively low name recognition of Planned Parenthood and (b) a higher-than-expected level of interest that young, low income blacks expressed in using the service.

THERE IS A GROWING AWARENESS of the importance of marketing in the health care profession. To attract and maintain clients, service providers

are increasingly interested in learning how their service or product can be made more attractive to potential clients. Although there was some initial resistance to the use of marketing techniques among health care managers who felt that marketing was synonymous with "hard sell" and therefore unethical, use of these techniques has gained in acceptance as the health care industry has become increasingly competitive. Institutions with large operating budgets have been the prime users of marketing in the health field (1).

The same principles that make marketing techniques important for large health care institutions apply to smaller public health programs with a specific objective. These techniques have been used in campaigns for smoking cessation, prevention of drug and alcohol abuse, safer driving, and family planning, to name a few examples (2).

Our study was conducted for Planned Parenthood of Louisiana (PPLA). Although Planned Parenthood is well-established in many States, the first such clinic in Louisiana did not open until May 1984. This study was conducted just prior to that opening in an effort to learn more about the interests, needs, and current contraceptive practices of potential clients in the New Orleans area.

The marketer's task is to develop the right product backed by the right promotion, and put into place at the right price (the four "Ps" of marketing) (3). Our marketing study was designed to provide data on

- Product—extent of need for this service;
- Place—alternative sources currently used and levels of satisfaction with these services, characteristics of a health facility that are important to clients, and preferred times for clinic visits;
- Price—amount believed reasonable for family planning services;
- Promotion—recognition of the name "Planned Parenthood" and preferences for radio stations and peak listening hours.

This research has several important implications. First, it demonstrates the type of information that can be obtained to identify the market and to structure the program accordingly. Second, it indicates that a young organization with extremely limited financial resources can adopt a marketing approach to program development. And, third, it demonstrates the feasibility of conducting marketing surveys by telephone, even on highly personal topics.

Methodology

The study population for this survey comprised females ages 15-35, residing in Orleans Parish (in

the New Orleans city limits). Although it was expected that the family planning clinic would attract clients from areas outside Orleans Parish, most were expected to be from this parish, so the survey focused on this group only. Likewise, the clinic would serve both men and women, with most clients being women; our research is based on women only.

The sample for this survey was obtained through random selection of telephone numbers. Specifically, a list of valid telephone exchanges was obtained, as well as the percentage that each exchange represents of the total number of telephones in Orleans Parish. These percentages were used to calculate the quota (of the 1,000 interviews to be carried out) for each exchange.

A list of random numbers was then generated by the computer for each exchange. These included new or unlisted numbers that would not be available from the directory. If there was no answer from the selected number or an eligible respondent was not at home, the interviewers were required to make a total of three calls (the second and third on different days and at different times) to that number before replacing it with the next one on the list. This was done to obtain a truly representative sample of the population, not just women (such as those who do not work) who were likely to be at home.

If there were no eligible women in the household, the number was replaced with another. If there was only one eligible woman and she was present, the interviewer attempted to interview her. If there was more than one eligible woman in the family, an attempt was made to interview the younger female; however, if only one was present at the time of the call, that one was interviewed. If the eligible woman was not present at the time of the call, two additional callbacks were made before she was dropped from the list. Interviewing was conducted by female university students between February and July 1984. Information needed to calculate response replacement is no longer available.

Results

The findings that follow are based on 1,000 women ages 15-35 in Orleans Parish. Of the women interviewed, 59 percent were black; 37 percent, white; 2 percent, Hispanic; and 1 percent, other. Nineteen percent had not completed high school, 30 percent had completed high school or the equivalent, 25 percent had attended college but

had not yet finished, and 25 percent were at least college graduates. Of the total, one-third were students at the time. The mean age was 25.6 years.

Extent of need for family planning services. Sixty percent of all respondents reported using a contraceptive method in the past 12 months. The most widely used method by far was the pill (55 percent of contraceptive users), followed by tubal ligation (12 percent), the diaphragm (9 percent), the intrauterine device (IUD) (6 percent), the rhythm method (5 percent), and other methods (13 percent).

All respondents were also asked: "Do you expect to need birth control in the next 6 months?" As shown in the following table, half of the women interviewed in this survey (52 percent) answered affirmatively:

Category	Percent
Will continue nonuse	32.3
Will go from nonuser to user	7.0
Will go from user to nonuser	16.0
Will continue using same method	40.1
Will continue using, but with different method	4.6

The percentage expecting to need birth control is slightly lower than for use of a method in the past 12 months (60 percent), in part because women with tubal ligations were counted as users in the past 12 months but would not need services in the future. Among the 157 women who had used birth control in the last 12 months and would be classified as nonusers in the future, 45 percent reported that they had had a tubal ligation or their partner had had a vasectomy.

The methods that the women would expect to use in the next 6 months were very similar to what they had used in the past 12 months. The pill was by far the most frequently mentioned, followed distantly by the diaphragm, IUD, and the rhythm method. In fact, of the 438 women who had used a method of birth control and expected to continue to do so, 90 percent anticipated using the same method in the future.

Alternative sources of family planning services. Among women who had used contraceptives in the past 12 months, more than half—62 percent—reported their source to be a private physician. Respondents who were older, better educated, and with higher levels of income were more likely to use a private physician than other respondents. Satisfaction with this source was high (81 percent were "very satisfied").

Other sources of services were the State-operated family planning clinic (16 percent), pharmacies (4 percent), and a variety of other sources (18 percent). However, only half of the users of that particular clinic or of a pharmacy reported to be "very satisfied," suggesting that this group might well represent future clients for the PPLA clinic.

Client expectations regarding a health facility. To identify factors likely to determine client satisfaction with a health facility, we asked respondents to rate a list of 11 items as "very important," "somewhat important," or "not very important" in their selection of a health facility.

Three-quarters or more of the respondents rated the following as "very important" (in order of importance): (a) the facility is clean, (b) the staff takes time to answer questions, (c) the visit is confidential, (d) the staff is friendly, (e) you can get served the same day you call, (f) the price is reasonable, and (g) the hours fit your schedule.

Three other factors that might have been expected to emerge as important were rated "very important" by only about half of the respondents: (a) the wait is not too long, (b) pamphlets are available to take home, and (c) the place is near public transportation. Interestingly, only 10 percent rated as "very important" having "staff the same race as you are."

Preferred times for visiting clinic. The clinic administrators had speculated that to make services truly accessible to the population being served, it would be important to have evening or weekend hours or both. The results suggest, however, that most—though not all—of the women surveyed would find the clinic's hours and days acceptable. Four out of five women named a working day as convenient, and the times of day receiving the largest percentage of mentions were between 9 a.m. and 6 p.m.

Price for first visit and contraceptive. All respondents who expected to need birth control services in the next 6 months were asked what they would consider a reasonable price to pay for a first visit and for a specific quantity of the contraceptive product they intended to use. The question was worded, "What price do you think is reasonable to pay for a first visit and [the product]?" The methods and quantities were specified as follows: pill, 3 cycles; diaphragm, 1 device; IUD, insertion and device; condoms, 12 condoms; condoms and spermicide, 12 condoms and 1 container; foam,

cream, or jelly, 1 container; and vaginal sponge, 12 sponges.

The average figure given by women expecting to use a modern contraceptive product was \$37 for the first visit and the product. The IUD was perceived to be the most expensive (\$47), followed by the diaphragm (\$37), the pill (\$36), and barrier methods (\$31). The prices that clients expected to pay are in line with actual rates charged by the PPLA clinic, suggesting that prices are in line with expectations. We cannot say from the survey results whether potential clients would be able to pay these prices, especially clients in lower income brackets.

Recognition of the name "Planned Parenthood." One important finding from this survey was that only 51 percent of the respondents had ever heard of the Planned Parenthood organization. Among women who had heard the name, 76 percent knew that it was a family planning service. Almost one-fourth gave erroneous responses (including preparation for parenthood or financial responsibility, prenatal care, and place for unwed mothers) or admitted that they did not know. Thus, while many people might assume that everyone knows what Planned Parenthood is, these results showed quite a different situation.

Radio-listening habits. One purpose of a marketing survey of this type is to identify possible channels for promoting PPLA services in the future. In an effort to limit the length of the questionnaire, the only items about media involved radio. Items about television were omitted, because it is unlikely that the local affiliate would have funds to pay for commercial time on television.

Respondents reported that they listened to radio an average of 3.1 hours a day. The most popular radio stations were identified (two formats were "soul" and two were "top-40"), and the peak hours for listening to radio were 7-9 a.m., presumably when many women were preparing for work or for the day at home. These data on the most popular radio stations and peak listening times provide a basis for selecting the potentially most effective means for reaching the target population.

Segments most interested in PPLA services. Near the end of the survey, the interviewers explained that a new family planning clinic would open shortly. The name, location, and moderate prices were also mentioned. Among women who expected to need birth control in the next 6 months, 14 percent felt they would "definitely" use the PPLA clinic and another 47 percent claimed they would "probably" use it. When combined, these two groups make up the population of respondents defined as "predisposed to use the clinic."

Finally, we determined which segments or subgroups of the population were most predisposed to using these services (see table). First, respondents who did not expect to need birth control in the next 6 months were excluded from the analysis. Six different variables were tested:

- Age. Respondents 15-19 years old were most likely to report interest in visiting the clinic. Interest decreased for each subsequent age group, reaching its lowest point for respondents 30-35 years old.
- Race. A much higher percentage of blacks (73.6 percent) than whites (43.1 percent) expressed interest in using the clinic's services.
- Education. Interest in using this clinic was highest among women with less than a college education (72.8 percent of whom were interested) and decreased in step-like fashion with increased education. College graduates were the least likely to visit the clinic.
- Income. Respondents with the lowest incomes expressed the greatest interest in using the clinic's services, while women at higher income levels were least interested.
- Medicaid card. Women who had a Medicaid card were more likely to be interested in the clinic's services than those who did not.

Only one of the six variables tested—student status—was not shown to be related to interest in using the clinic's services. That is, the percentages interested were similar for students and for women who were no longer students.

Our results lead to the conclusion that women in the subgroup most interested in using the new clinic were young, low-income blacks.

Limitations of the survey. One of the inherent limitations of telephone surveys is the possibility that the sample will be biased due to the under-representation of low-income families among the telephone-owning population. Because we found that low-income women were most likely to be interested in using the clinic's services, greater representation of this group would probably have strengthened the conclusions of the study.

Factors	Percent of total sample	Respondents who expected to use birth control in next 6 months		
		Number ²	Percent who expect to "definitely" or "probably" use clinic services	P value
Total sample	100	508	60.7	
Age:				
15–19 years	18.6	75	74.7	
20–24 years	23.9	138	70.3	< .001
25–29 years	28.1	152	56.6 (١٠٥٥، >
30–35 years	29.4	129	48.1 <i>)</i>	
Race:				
Black	59.3	277	73.6	
White	37.4	209	43.1	< .001
Hispanic	2.2	9	66.7 (١٠٥٥٠ >
Other	1.1	4	66.7	
Educational level:				
Grades 1–11	18.9	81	72.8	
Grade 12 (high school graduate)	30.4	147	67.3	< .001
Attended college	25.3	123	61.8 (₹ .001
College graduate or higher	25.4	148	46.6	
Student status:				
Yes	33.1	152	63.2	.53
No	66.7	345	59.4 {	.55
Income: 3			,	
Less than \$5,000	14.5	41	82.9	
\$5.000-\$11.999	19.7	60	81.7	
\$12,000-\$14,999	14.2	53	79.2	
\$15,000-\$24,999	21.0	75	50.7	< .001
\$25,000-\$34,999	14.9	48	43.8	₹ .001
\$35,000-\$49,999	9.0	25	32.0	
More than \$50.000	6.6	27	37.0	
Medicaid card				
Yes	14.1	66	74.2	.02
No	85.9	423	58.4	.02

¹ Interest in using this clinic was operationally defined as a response of "definitely" or "probably" to the following question: "Knowing that this will be a Planned Parenthood clinic, would you say that you would use it?"

² Refers to the number of cases per category on which the correspondent

Although the racial proportions of our sociodemographic data and the results of the 1980 census for Orleans Parish are highly comparable, the current survey undersampled women in the 15-19-year-old age range. The problem is frequent in telephone surveys, because that age group tends to spend less time at home. Because the income question was not asked of students (who were one-third of the respondents), it is not possible to compare our study population with that enumerated in the 1980 census.

Discussion

Social marketing—the application of marketing concepts and techniques to influence the acceptability of social ideas—has been used more frequently with family planning than with other areas of public health. One possible explanation is that the physical products involved (such as pills.

percentage is based. The individual categories do not add to the total number because of "don't know" responses regarding clinic use and missing data on certain sociodemographic variables.

3 This item was not asked of students.

condoms, and spermicides) can be marketed easily (4). They represent tangible items that can be displayed, promoted, and sold, as compared with other social products that can be practices or ideas. However, most of these efforts have been carried out in developing countries (5). In contrast, there has been relatively little published on this topic in the context of the United States, although certain private family planning groups have commissioned studies to learn more about their role in the reproductive health care market of the 1980s (6). It is coincidental that one of the few published reports on the marketing of domestic family planning services was also from Louisiana, although the program described is no longer in operation (7).

Although surveys are only one step in the marketing process, they provide information needed to define the characteristics, needs, and wants of the market and to develop or revise

strategies accordingly. If services have a major opportunity to improve their marketing, it is in the more consistent, more effective use of research to understand consumer segments (8).

Our study confirmed a number of aspects of the wants and needs of the target population for the clinic in question. It indicated the large percentage of women 15-35 who need family planning services, yet revealed that the majority of them are currently receiving services from a private physician and are very satisfied with the arrangement. Women who are not satisfied with their present source of family planning services are more likely to use the PPLA clinic. The survey also underscored those aspects on which future clients would judge this health facility. Respondents did not feel it was important that staff members be the same race as clients. Finally, the survey confirmed that the prices charged and the hours of clinic services corresponded to the expectations and interests of the potential clients.

More important were the unexpected findings. First, the name "Planned Parenthood" was not widely known in New Orleans at the time of the survey, and not all who had heard the name connected it with family planning services. Thus, an important part of the marketing strategy must be to heighten awareness of the existence of the new clinic facility and ensure that the target population is informed about the nature of the services provided.

Second, the group identified through the survey as most predisposed to using this new service consisted of young, low-income blacks. By contrast, the majority of the clients who actually used the clinic in the early months of operation were primarily white and represented a broader range of ages. Many of these clients had known of Planned Parenthood in other States or learned about it through word-of-mouth, especially among the college group. Prior to organized promotional efforts by PPLA (which did not begin until late 1984), the segment with the highest level of expressed interest—young, low-income blacks—had not been reached.

As a result of this survey, the limited funds available for promotion have been channeled into reaching the younger segment of the market. Two stations have been used: a "top-40" radio show, the type and format of which attracts whites of this age group, and radio advertising on the radio station rated number one by the black female audience of New Orleans. Also, ZIP Code data collected on the survey have been useful in

defining locations (including bus routes) that should be targeted in mass transit advertising.

Survey research among a representative sample of the population can be extremely expensive, and often this discourages administrators from using this approach. The survey described in this paper cost approximately \$5,000, which covered the expenses of the interviewing and coding. Technical assistance and computer time were donated. A similar study by a local marketing firm would have cost \$8,000 to \$14,000.

When should one do market research? One marketing research firm that has conducted studies for private famly planning associations suggests the following rule of thumb: "... an [organization] should always conduct research if it is deciding among several alternatives, and information important to the quality of that decision can be obtained at one-tenth or less of the cost of any one of the alternatives. In our experience, professionally done research will almost always improve the decision process by at least such a fraction of the project cost." (6).

Finally, our study points to the feasibility of conducting telephone surveys, even on such a sensitive topic as family planning. The interviewers did experience frustration with business, not-inservice, and disconnected telephone numbers, as well as with potential respondents who were unwilling to be interviewed on any topic. Nonetheless, once the woman agreed to be interviewed, the questions regarding contraceptive use appeared to cause few problems. If anything, the telephone may have provided the respondent with a greater feeling of anonymity. Because relatively few surveys on contraceptive use have been conducted by telephone (9), this is an important lesson that was learned from this study.

References.....

- Ireland, R. C.: Using marketing strategies to put hospitals on target. Hospitals 51: 55 (1977)
- Fox, K. F. A., and Kotler, P.: The marketing of social causes: the first ten years. J Marketing 44: 24 (1980).
- Kotler, P., and Zaltman, G.: Social marketing: an approach to planned social change. J Marketing 35: 7 (1971).
- Soloman, D. S.: A social marketing perspective on campaigns. In Public communication campaigns, edited by R. E. Rice and W. J. Paisley. Sage Publications, Inc., Beverly Hills, CA, 1981, pp. 291-292.
- Altman, D., and Piotrow, P.: Social marketing: does it work? Popul Rep [3] 8: 393-434 (1980).
- Planned Parenthood Federation of America, Inc.: A summary of market research conducted for Planned Parenthood affiliates, 1982-1984. Northern Regional Office, Oak Brook, IL, 1985.

- El-Ansary, A. I., and Kramer, O. E., Jr.: Social marketing: the family planning experience. J Marketing 37: 1-7 (1973).
- Knisely, G.: Comparing marketing management in package goods and service organizations. In Services marketing.
- edited by C. H. Lovelock. Prentice-Hall, Inc., Englewood Cliffs, NJ, 1984, p. 25.
- Spitz, A. M., et al.: Contraceptive use in Georgia: estimation by telephone survey. South Med J 78: 323-328 (1985).

The Impact of the Addition of Naloxone on the Use and Abuse of Pentazocine

CARLENE BAUM, PhD J. P. HSU, PhD ROBERT C. NELSON, MS

At the time this paper was written, Dr. Baum was a Technical Information Specialist, Dr. Hsu was a Mathematical Statistician, and Mr. Nelson was an Epidemiologist in the Office of Epidemiology and Biostatistics, Food and Drug Administration (FDA). Dr. Hsu is now a Statistician with Smith Kline and French Laboratories, and Mr. Nelson is an Epidemiologist with the Office of Biologics, FDA. Betsy Slay, a Computer Specialist in the Division of Epidemiology and Statistical Analysis, National Institute on Drug Abuse, supplied data from the Drug Abuse Warning Network.

Data in this article were presented in a poster session at the U.S. Public Health Service Professional Association's 21st Annual Meeting, June 16, 1986, in Washington, DC.

Tearsheet requests to Carlene Baum, PhD, Surveillance Section, HFN-737, Division of Epidemiology and Surveillance, Food and Drug Administration, 5600 Fishers Lane, Rockville, MD 20857.

Synopsis.....

An epidemic of abuse with "T's and blues" began in the late 1970's in which pentazocine—Talwin tablets ("T")—and the antihistamine tripelennamine (known as blues) were crushed, dissolved together, filtered, and injected intrave-

nously. The resulting high was reported to be similar to that of heroin. In 1981, the manufacturer and the Food and Drug Administration met to discuss a possible solution. As a result, 0.5 mg of naloxone hydrochloride, a narcotic antagonist that is pharmacologically inactive at that dose orally but active if administered parenterally, was added to the tablet formulation. The reformulated product, Talwin Nx, was approved for marketing in late 1982 and introduced in the second quarter of 1983. Distribution of Talwin tablets in the United States was discontinued.

The Drug Abuse Warning Network (DAWN) of the National Institute of Drug Abuse and IMS America's National Prescription Audit were used to review the use and abuse patterns of pentazocine before and after the naloxone intervention. The number of prescriptions dispensed quarterly for pentazocine products remained fairly stable from 1981 through the first quarter of 1983 and increased after the introduction of Talwin Nx. In contrast, DAWN emergency room and medical examiner mentions decreased after the product reformulation. The rates of both emergency room and medical examiner mentions per million prescriptions were substantially lower in the 2 years following the introduction of Talwin Nx (decreases of 70 percent by emergency rooms and 71 percent by medical examiners), indicating that the product reformulation successfully reduced pentazocine abuse.

In 1967, INJECTABLE AND ORAL FORMS of pentazocine (Talwin) were approved for marketing by the Food and Drug Administration (FDA) as nonnarcotic analgesics indicated for the treatment of moderate to severe pain. Pentazocine had no known potential for abuse at that time, with the 1965 session of the World Health Organization's Expert Committee on Dependence-Producing Drugs having concluded that pentazocine was not likely to be abused, presented no significant risk to the public health, and need not be placed under narcotics control (1). However, the first reports of

patient dependence on pentazocine were received in 1968. Pentazocine was initially thought to be abused only by a restricted patient population, but it soon became apparent that the drug was being more widely misused (2).

Pentazocine abuse became a significant public health problem in the latter half of the 1970s with the advent of "T's and blues" abuse. Talwin tablets (the "T") and the antihistamine tripelennamine (commonly available as a blue tablet) were dissolved together, filtered, and injected intravenously. The resulting effect was said to be similar